

NAUMOV, Sergey Pavlovich

"Material on the Fixed Distribution of Rabbits (*Lepus timidus* L)" Uchenye zapiski
Mosk. gos. ped. In-ta im V. I. Lenina, Vol. 24, No.2, 1941.

NAUMOV, Sergey Pavlovich

"Material on the Dynamics of Parasite Fauna for Mammalia" Zool. Zhurn. Vol. XXIII,
No. 4, 1944.

NAUMOV, Sergey Pavlovich

"Best Methods of Trapping Rabbits" Zagotizdat, 1945.

NAUMOV, Sergey Pavlovich

"Material on the Geographic and Fixed Distribution of Marmots in the Central
Tyan-Shan" Byull. MOIP, No. 5-6, 1945.

NAUMOV, Sergey Pavlovich

"Game Fauna of West Siberian Forests and Perspectives for Its Economic Utilization"
Tr. Konferents. AN SSSR po izuch. proizb. sil Irkutskoy Obl. 1947.

NAUMOV, Sergey Pavlovich

"Problem of Acclimatizing Squirrels to the Pine Forests of Tyan-Shaw" Uch. zap.
Mosk. Gos. ped in-ta im V. I. Lomina, Vol. 2, No. 3, 1947.

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"Ecology of the Rabbit (Theoretical Fundamentals for Forecasting population)"
VNITO lessa, 1948.

NAUMOV, Sergey Pavlovich

"Lumber Management Dictionary and Manual (number of articles on Zoology)" VNITO lesa, 1948.

NAUMOV, Sergey Pavlovich

"Systematics and Biology of Game Animals and Birds in the USSR" Zagotizdat 1948.

NAUMOV, Sergey Pavlovich

"Reconstruction of the Fauna of Game Animals in the USSR During the Stalin Five Year Plan" Byull. MOIP Vol. 4, No. 6, 1949.

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"Zoology of Vertebrate" Uchpedgiz 1951.

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"The Hare" Article for 2nd Ed. of Lumber Management Handbook, 1952.

NAUMOV, Sergey Pavlovich

"Zoology of Mountain Ranges" Radyans'ka shkola (Revised and supplemented edition of
a text for pedagogical Higher schools)1953.

NAUMOV, Sergey Pavlovich

"Reasons for and Regularities in the Dynamics of Rabbit Population in Yakutsk"
Thesis Report 3rd Ecological Conference, Vol. IV, 1954.

NAUMOV, Sergey Pavlovich

"Zoology for Mountain Ranges" Panstwowe wydawnictwo naukowe, Warsaw, 1954.

NAUMOV, Sergey Pavlovich

"Course in Zoology. (for Geography Faculties)" Part II, Uchpedgiz, 1955.

BANNIKOV, A.G., prof., doktor biol. nauk; NAUMOV, S.P., prof., doktor biol. nauk; POBKAROVA, A.A., tekhn. red.

[Programs of pedagogical institutes; zoogeography for geography faculties] Programmy pedagogicheskikh institutov; geografiia zhivotnykh dlia geograficheskikh fakul'tetov. Moskva, Gos. uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1955. 13 p. (NIRA 11:9)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye vysshikh i srednikh pedagogicheskikh uchebnykh zavedeniy.
(Zoogeography—Study and teaching)

~~NAUMOV, S.P., prof.; GILYAROV, M.S., prof.; BANNIKOV, A.G., prof.; BOGORAD,~~
~~V.B., red.; NIKOLAEVA, M.I., tekhn. red.~~

[Programs of pedagogical institutes; zoology for natural science
faculties] Programmy pedagogicheskikh institutov; zoologiya dlia
fakul'tetov estestvoznaniia. [Moskva] Uchpedgiz, 1955. 32 p.
(MIRA 11:9)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye vysskhikh i
srednikh pedagogicheskikh uchebnykh zavedeniy.
(Zoology—Study and teaching)

ZENKEVICH, Lev Aleksandrevich; NAUMOV, Sergey Pavlovich; MEKHLYUDOVA, A.S.,
redakter; MANHOVA, N.M., tekhnicheskii redakter.

[Brief course in zoology; manual for the geography departments of
pedagogical institutes] Kratkii kurs zoologii; uchebnoe posobie dlia
geograficheskikh fakul'tetov pedagogicheskikh institutov. Moskva,
Gos. uchebno-pedag. izd-vo Ministerstva prosveshcheniia RSFSR, 1955.
427 p. (Zoology) (MLA 9:4)

LAVROV, Nikolay Petrovich; NAUMOV, Sergey Pavlovich; KOLOSOV, A.M.,
prof., red.; BILENKO, L.S., red. izd-va; FOMICHEV, P.M.,
tekhn. red.

[Biology of game animals and birds in the U.S.S.R.] Biologiya
promyslovyykh sverei i ptits SSSR. Pod obshchey red. A.M. Kolosova.
Moskva, Izd-vo Tsentrsoziusa, 1960. 236 p. (MIRA 14:2)
(Game and game birds)

[illegible]

NAME, S.P.

KOLOSOV, A.M.; LAVROV, N.P.; NAUMOV, S.P.; DUKAL'SKAYA, N.M., red.;
BOZANOVA, G.K., red. izd-va; MURASHOVA, V.A., tekhn. red.

[Biology of commercial animals in the U.S.S.R.] Biologiya tro-
mylovyykh sverei SSSR. Moskva, Gos. izd-vo "Vysshaya shkola,"
1961. 379 p. (MIRA 14:6)

(Game and game birds)

NAUMOV, S.P.; LABUTIN, Yu.V.

Materials on the bird fauna of the Verkhoyansk folded region. Report
No.1: Composition of the bird fauna and some characteristics of species
distribution in the western part of the Verkhoyansk area. Biul.
MOIP. Otd. biol.66 no.6:116-125 N-D '61. (MIRA 14:12)
(VEREHOYANSK REGION—BIRDS)

KOLOSOV, Aleksey Mikhaylovich, prof.; LAVROV, Nikolay Petrovich,
prof.; NAUMOV, Sergey Pavlovich, prof.; PETROVSKAYA, L.P.,
red.

[Biology of commercial animals of the U.S.S.R.] Biologiya
promyslovykh zverei SSSR. Perer. i znachitel'no dop. izd.
Moskva, Vysshaya shkola, 1965. 508 p. (MIRA 18:6)

NOVIKOV, Pavel Aleksandrovich, prof.; NAUMOV, Sergey Pavlovich,
prof.; PETROVSKAYA, L.P., red.

[Zoology] Zoologiya. Moskva, Vysshaya shkola, 1965. 458 p.
(MIRA 18:7)

NAUMOV, Sergey Pavlovich, prof.; KHUNTSKARIYA, Ye.N., red.

[Zoology of the vertebrates] Zoologiya pozvonochnykh.
Moskva, Prosveshchenie, 1965. 462 p. (MIRA 18:12)

~~NAUMOV, Semyon Savvich~~; SERENKO, A.S., otv.red. [deceased]; KHAZAN, G.A.,
otv.red.; SINYAVSKAYA, Ye.K., red.isd-va; ANDREYEV, S.P., tekhn.red.

[Improvement of sanitary conditions at work, and safety engineering
in the by-product coke industry] Osdorozenie uslovii truda i
tekhnika bezopasnosti v koksokhimicheskom proizvodstve. Khar'kov,
Gos.nauchno-tekhn.isd-vo lit-ry po chernoi i tsvetnoi metallurgii,
1959. 359 p. (MIRA 12:4)

(Coke industry--Safety measures)

SOV/51-4-6-11/24

AUTHORS: Gerasimov, F.M., Tel'tevskiy, I.A., Naumov, S.S., Spisharskiy, S.N.
and Nesmelov, S.V.

TITLE: Diffraction Gratings from the State Optical Institute (Difraktsionnyye
reshetki Gosudarstvennogo Opticheskogo Instituta)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol IV, Nr 6, pp 779-790 (USSR)

ABSTRACT: The present paper describes briefly the technique of preparation of optical diffraction gratings at the State Optical Institute imeni S.I. Vavilov and discusses in detail the optical characteristics of these gratings in the ultraviolet, visible and near infrared spectral regions. The technique of preparation of gratings was fully described in References 1, 2. Echelette gratings for the wavelengths 2.5-600 μ were described in a paper presented at the Xth All-Union Conference on Spectroscopy (Ref 3). The gratings are prepared by means of a screw-motion ruling machine (Fig 1) which can produce gratings of 150 x 150 mm area with 1200, 600, 300 and 200 lines/mm. This machine does not differ from the majority of machines described in literature. Figs 2 and 3 show certain details of the carriage of the ruling machine at the Institute. A typical profile of a diffraction grating is shown in Fig 4. The lower part of the figure shows

Card 1/2

SOV/51-4-6-11/24

Diffraction Gratings from the State Optical Institute

an electron microscope image of a grating with 1200 lines/mm. The optical characteristics of the gratings produced are discussed as well as the sources of certain errors. The resolving power of better gratings reaches 600 000. The relative intensity of Rowland's "ghosts" in the first order of gratings with 600 lines/mm is about 0.1%, and in better gratings it may be only 0.01%. The gratings of the State Optical Institute produce a high concentration of light in a given direction. Thus gratings with a step-like profile, with a slope of the working edge of $5-10^\circ$, concentrate in the maximum up to 85% of the total reflected light, which is near the theoretical limit. A characteristic change in the polarization properties of gratings was observed in the region of the maximum light concentration. On the short-wavelength side of the maximum the component with electric vector vibrations parallel to the grating lines is the more intense, and on the long-wavelength side of the maximum the component with electric vector vibrations perpendicular to the grating lines is stronger (Fig 10). There are 10 figures and 17 references, 8 of which are Soviet, 4 English, 3 American, 1 German and 1 translation of a Western work into Russian.

Card 2/2

ASSOCIATION: Gosudarstvennyy Opticheskiy Institut im. S.I. Vavilova (State Optical Institute imeni S.I. Vavilov)

SUBMITTED: January 17, 1958

SOV/51-5-6-7/19

AUTHORS: Gerasimov, P.M. and Naumov, S.S.

TITLE: An interferometer with a Concave Diffraction Grating (Interferometr s vognutoy difraktsionnoy reshetkoy)

PERIODICAL: Optika i Spektroskopiya, 1958, Vol 5, Nr 6, pp 682-685 (USSR)

ABSTRACT: Light beams diffracted by a grating may interfere with one another provided they are coherent. The authors observed interference between beams diffracted by a plane or a concave grating. The apparatus used in experiments with plane gratings is shown schematically in Fig 1. Two diffracted beams (1 and 2 in Fig 1) were reversed by plane mirrors and after second diffraction at the grating they were focused by an objective, as shown in Fig 1. When the mirrors are placed at certain angles interference bands are observed at the focus. The optical system of an interferometer with a concave grating is shown in Fig 2. A light beam from a lamp 1 passes through an aperture 2 and after reflection from a half-silvered glass plate 3 falls on a concave grating 4. Diffracted beams of the first order are reversed by plane mirrors 5 and after a second refraction converge at a point 6 at which interference may be observed visually. The system can be used for observation of interference in monochromatic light only. The concave

Card 1/2

SOV/51-5-6-7/19

An Interferometer with a Concave Diffraction Grating

grating used had a radius of curvature of 3 m and 200 lines/mm. The grating width was 50 mm and the length of ruled lines was 130 mm. Photographs of interference bands obtained with the concave grating are shown in Fig 3. The error along the field does not exceed 0.1 bands. A wide central spot was due to light reflected from a grating as if from a concave mirror (zero-order beam). The weaker spots are due to multiple diffraction of strong lines emitted by the source. This interferometer was successfully applied to testing of reflecting surfaces and of plane diffraction gratings. There are 3 figures and 5 references, 4 of which are American and 1 Soviet.

SUBMITTED: January 17, 1958

Card 2/2

S/0051/64/016/001/0133/0138

ACCESSION NR: AP4011495

AUTHOR: Gerasimov, F.M.; Naumov, S.S.; Denisov, L.M.

TITLE: Diffraction gratings concentrating radiation in the vacuum ultraviolet and x-ray regions

SOURCE: Optika i spektroskopiya, v.16, no.1, 1964, 133-138

TOPIC TAGS: diffraction grating, concave diffraction grating, diffraction grating ruling, ultraviolet spectroscopy, x-ray spectroscopy

ABSTRACT: The characteristics of concave diffraction gratings with step profile rulings are discussed. Conventional gratings commonly employed in spectroscopy, particularly in the wavelength region below 1000 \AA , are characterized by V shaped lines separated by flats (a in the figure - see Enclosure). Such gratings in the short wavelength region are characterized by low efficiency as regards concentration of light: about 20% in one of the first orders. In practice, owing to unavoidable irregularities, the actual profile has the appearance shown in b, so that the efficiency is further reduced. In the present paper there are discussed concave gratings with a line profile of the type shown in c. Theoretically such gratings should be

Card 1/1

ACC.NR: AP4011495

more efficient. The angle of inclination α must be of the order 3° . Gratings of this type have been ruled on aluminum and have proved capable of concentrating up to 85% of the reflected radiation in one order. Hitherto, such gratings have not been ruled on glass owing to the mechanical difficulties involved. These difficulties stem from the fact that the grooves must be very shallow in view of the small value of the angle α and the fact that the angle α must be maintained constant over the curved surface of the gratings. The authors have ruled and tested concave gratings of this step type on aluminum coated on glass (1200 lines/mm) and on F1 glass with 300, 600 and 1200 lines/mm and angles α from $30'$ to 4° . A special set-up was developed for visual determination of the location of maximum concentration. The experimental gratings were tested in a number of short wavelength spectrographs and yielded satisfactory results, i.e., resulted in a significant reduction of the exposure time. The results of measurement of the efficiency of the gratings in the 1100 to 2500 Å region are described elsewhere (S.A.Kulikov and N.G.Nikitin, Opt.-mekhanich.promyshlennost', 12, 2, 1962). A number of the experimental gratings are now being tested further in oblique incidence spectrographs intended for the 100 to 1000 Å region. Orig.art.has: 1 formula and 4 figures.

Card ^{2/2}

Country : USSR
Category: Soil Science. Cultivation. Improvement
Erosion.

Abs Jour: RZhDiel., No 14, 1958, No 63143

Author : Naumov, S.V.

Inst : -

Title : Classification of the Forms of Erosion Formations.

Orig Pub: Pochvovedeniye 1956, No 9, 71-82

Abstract: The author distinguishes between erosion formation types of ancient and present-day origin. To the first belong hollows, ravines, gulches and valleys. Present-day erosion formations are divided into the forms produced by the processes of sheet and volume erosion. To the first belong surface and striated run-off. To the second, bank

Card : 1/2

J-75

U.S.S.R. / Human and Animal Physiology. Nervous System. T

Abs Jour: Ref Zhur-Biol., No 5, 1958, 22618.

Author : Naumov, T. S.

Inst : Not given.

Title : Changes of Electrical Activity of the Caudate Nucleus Produced by Temporary Coupling Circuits of Auditory and Motor Analyzers.

Orig Pub: Fiziol zh SSSR, 1957, 43, No 1, 14-21.

Abstract: Movements of the foot, occurring in response to sound, the dominating focus aroused by polarization of the cortex being located in the motor area, were associated with lowering of the amplitude and increase of the frequency of the potentials of the caudate nucleus. Similar changes in electrical activity occurred in response to sound also prior to polarization.

Card 1/2

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257

1. "Physical Therapy in the Treatment of the Commonest Skin Diseases," V. M. KATZ, Chief (Greenhaman) of the Dept. of Dermatology (Philadelphia), Journal of the American Academy of Dermatology, Vol. 1, No. 1, 1956, pp. 1-10.
2. "Zoono-herpetological Aspects," and "Zoono-herpetic Infection (Greenhaman) (Kohnen) at the University of Chicago," Journal of the American Academy of Dermatology, Vol. 1, No. 1, 1956, pp. 10-19.
3. "Generalized Eruptions of the Yaws in a Case of Rubular Syphilis," Dr. J. H. Kohnen, Institute in Medical Sciences (Philadelphia), in Pharmacology, pp. 15-20.
4. "Semiology-Physiologic Requirements in the Production and Maintenance of Lead Batteries," R. K. KATZ, Chief of Labor (Kohnen), Greenhaman, "College of Health Sciences and Medicine," Journal of the American Academy of Dermatology, Vol. 1, No. 1, 1956, pp. 20-32.
5. "Concerning the Rose Treatment of Children," J. KATZ, Chief of the Dept. of Dermatology (Philadelphia), in Pharmacology, pp. 32-36.
6. "Our Experience with the New Treatment of Children," P. KATZ, Nurse (Philadelphia), in Pharmacology, pp. 36-40.
7. "Therapy in Dermatology," J. KATZ, Chief of the Department of Dermatology (Philadelphia), in Pharmacology, pp. 40-45.

NAUMOV, V.; BEVZYUK, A.

First results. Fin. SSSR 37 no.11:55-57 N'63. (MIRA 17:2)

1. Nachal'nik otдела kontrolya za finansovo-khozyaystvennoy deyatel'nost'yu Predpriyatiy soveta narodnogo khozyaystva L'vovskogo promyshlennogo oblastnogo finansovogo otдела (for Naumov). 2. Starshiy ekonomist otдела kontrolya za finansovo-khozyaystvennoy deyatel'nost'yu predpriyatiy soveta narodnogo khozyaystva L'vovskogo promyshlennogo oblastnogo finansovogo otдела (for Bevzyuk).

STOIANOV, St., gl.lekar; NAUMOV, V.

X-ray treatment of epithelioma at the enrichment of skin with oxygen. Dermato vener Sofia 2 no.3:103-107'63.

1. Iz Gradskia kožno-venerologichen ispanser - Sofia (gl. lekar St.Stoianov).
2. Chlen na Redaktsionen suvet, "Dermatologiya i venerologiya (for Stoianov).

BULGARIA

Kr. BALABANOV, Al. KONSTANTINOV and Ves. NAUMOV, Department of Dermatology of Medical College (Katedra po kozhni bolesti pri VMI) Head (rukovoditel na katedrafa) Prof Kr. BALABANOV, Sofia.

"Eccrine Spiradenoma."

Sofia, Suvremenna Meditsina, Vol 14, No 4, 1963; pp 64-69.

Abstract [English summary modified]: Description of first case reported in Bulgaria: small extremely painful tumor on shoulder of 28-year-old woodcutter. Very detailed histological data and discussion; speculation about origin from either eccrine or perhaps adjacent apocrine glands. Six photomicrographs, 10 Western references.

1/1

STOYANOV, ST. [Stoianov, St.]; NAUMOV, Ves.

Use of liquid nitrogen in dermatology. Vest. dermat. i ven. 38
no. 3:47-50 Mr '64. (MIRA 18:4)

1. Sofiyskiy gorodskoy kozhno-venerologicheskiy dispanser (glavnyy
vrach - doktor St. Stoyanov), Bolgariya.

NAUMOV, V. A.

DECEASED

1963/3

c' 1962

METALS -
industry, smelting

see ILC

NAUMOV, V. A., Prof.

Kirov Agricultural Inst.

"Preparation of pathologo-anatomical preparations in plexiglass."

SO: Vet. 25 (10) 1948, p. 28

NAUMOV, V. A., Prof.

Kirov Agric. Institute

"Abortions and mortality of colts from myohemoglobinuria."

SO: Vet. 26(1), 1949, p 24

MAUNOV, V.A., professor.

"White muscle" disease. Veterinariia 32 no.1:29-34 Ja
'55. (VETERINARY MEDICINE) (MIRA 29-34)

MAKHROV V. A. and TSKHLEISHVILI L. I. (Doctors of Veterinary Sciences,
Professors, Kirov Agricultural Institute)

"Leukoplakia of the mucous membrane of the test cistern of
cows."

Veterinariya, Vol. 38, No. 12, December 1961, P. 49.

USSR/Diseases of Farm Animals. Diseases of Unknown Etiology.

Abs Jour: Ref Zhur-Biol., No 12 , 1958, 54967.

Author : Naumov, V. A. Palevich, G. A.

Inst :

Title : To the Problem of Albinomyosis in Lambs and Calves.

Orig Pub: Ovtsevodstvo, 1957, No 7, 37-39.

Abstract: It has been observed that albinomyosis (AM) is a specific disease of lambs, calves and piglets. Clinical characteristics and pathomorphological data are described. Some data are given on the differentiation between AM and poisonings. Penicillin is recommended for the treatment of animals afflicted with AM in combination with the antidiplococcus serum and C-topcpherol which should be administered 3 times daily internally in a 3-4 ml dose. Prophylactic

Card : 1/2

24

USSR/Diseases of Farm Animals. Diseases of Unknown Etiology. R 3

Abs Jour: Ref Zhur-Biol., No 12, 1958, 54967.

measures consist in supplying pregnant ewes with sufficient amounts of micrcelelements and vitamins and in following zoological and veterinary rules of keeping young animals.

Card : 2/2

NAUMOV, V.A., prof.; PALEVICH, G.A., assistant

White muscular disease. Veterinariia 36 no.11:37-42 B '59 (MIRA 13:3)

1. Kirovskiy sel'skokhozyaystvennyy institut.
(Veterinary medicine) (Muscular dystrophy)

USSR / General Biology. Genetics. Plant Genetics.

B

Abs Jour : Ref Zhur - Biologiya, No 4, 1959, No. 14443

Author : Naumov, V. A.

Inst : All-Union Academy of Agricultural Sciences
imeni Lenin

Title : The Hereditary Characteristics of Parental
Properties in Hybrid Seedlings of an Apple
Tree

Orig Pub : Dokl. VASKhNIL, 1958, No 5, 20-24

Abstract : The fission of hybrids, obtained by hybridi-
zation of Renet bergamot x Yellow Belle Fleur
was studied by the author. The high morpholo-
gical variety of the progeny was recorded,
as well as good heredity of the Renet berga-
mot's indices. -- S. Ya. Krayevoy

Card 1/1

NAUMOV, V.A.

Vegetative segregation in hybrid apple seedlings. Agrobiologiya
no.6:68-74 N-D '58. (MIRA 12:1)

1. Fladeve-ovoshchnoy institut imeni I.V. Michurina, g. Michurinsk.
(Apple breeding)

HAUKOV, V.A.

Nature of the inheritance of parent characteristics in hybrid
apple seedling. Dokl. Akad. sel'khoz. 23 no. 5:20-24 '58.
(MIRA 11:8)

1. Plodovovoshchnoy institut imeni I.V.Michurina. Predstavleno
akademikom P.M.Yakovlevym [deceased].
(Apple breeding)

NAUKOV, V.A.

Nature of the inheritance of parent characteristics in hybrid
apple seedling. Dokl. Akad. sel'khoz. 23 no. 5:20-24 '58.
(MIRA 11:8)

1. Plodovovoshchnoy institut imeni I.V.Michurina. Predstavleno
akademikom P.M.Yakovlevym [deceased].
(Apple breeding)

NAUMOV, V. A.

Cand Biol Sci - (diss) "Vegetative fissure in hybrid apple slips."
Voronezh, 1961. 18 pp; (Ministry of Higher and Secondary Special-
ist Education RSFSR, Voronezh State Univ); 200 copies; price not
given; (KL, 7-61 sup, 228)

NAUMOV, V A.

21

PHASE I BOOK EXPLOITATION

EGT/5742

Akademiya nauk SSSR. Mezhdunarodnyy komitet po provedeniya Mezhdunarodnogo geofizicheskogo goda. VIII rundel programy IIG: Shiroty i dolgoty.

Predvaritel'nyye rezul'taty issledovaniy kolebaniy shirot i dvizheniya polusov zemli; sbornik statey (Preliminary Data of Latitude Variations and Migrations of the Earth's Poles; Collected Articles. No. 1) Moscow, Izd-vo AN SSSR, 1960. 97 p. Errata slip inserted. 1,000 copies printed.

PURPOSE: This collection of articles is intended for astronomers, geophysicists, and other scientists concerned with the problem of latitude variations and the migration of the Earth's poles.

COMMENTS: Part I of the collection contains preliminary results of latitude observations from 1957.5 through 1959.0 made at IGY stations in the USSR network, including new stations in Siberia. Part II consists of articles describing new instruments, observational programs and methods, and procedures of processing the latitude observational data. With the larger number of stations and the use of new instruments it is anticipated that the final results will provide a more comprehensive study of anomalies and instrumental

Card 1/5

Preliminary Data of Latitude Variations (Cont.)

157/5742

errors in latitude observations than has been possible previously. No personalities are mentioned. English abstracts and references follow each article.

TABLE OF CONTENTS:

Preface

5

PART ONE

Doroshkova, B. V., L. D. Kostina, and M. R. Andreyenko. Latitude Observations at the Main Astronomical Observatory of the Academy of Sciences USSR (Freyberg-Kondrat'yev Zenith-Telescope)

7

Korshenko, Ye. I., I. P. Ogrodnik, and O. V. Chuprunova. Observations of Talcott Pairs at the Poltava Gravitational Observatory of the Ukrainian Academy of Sciences (Zeiss Zenith-Telescope)

9

Popov, N. A. Observations of Bright Zenith Stars at the Poltava Gravitational Observatory of the Ukrainian Academy of Sciences (Zeiss Zenith-Telescope)

13

Card 2/5

Preliminary Data of Latitude Variations (Cont.)

ECV/5742

PART TWO

Sakharov, V. I., and I. P. Korbut. The Determination of Pulkovo Latitude Variations From Parallel Observations With Two Zenith Telescopes 34

Sakharov, A. M. Preliminary Results of Comparing Observations With Two Zenith Telescopes of the Kitab Latitude Station During the Period 1957.5-1959.0 43

Chukova, T. I., O. M. Zhukova, V. V. Kosterov, and Yu. I. Prodan. Preliminary Results of Processing Observations With the Moscow Zenith Telescope During 1953 47

Potter, Kh. I., and V. A. Mamrov. Theory and Method of Processing Photographic Zenith Tube (PZT) Observations 56

Bukharakh, N. M., and Kh. I. Potter. List of Stars on the Pulkovo Photographic Zenith Tube (PZT) Program 68

Rubinshevskiy, A. A., and Ye. P. Fodorov. On the Question of Evaluating the Accuracy of Latitude Observations 75

Card 4/5

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AUTHOR: Naumov, V. A.

TITLE: Automation of observations with the Pulkovo photographic zenith telescope

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 6, 1962, 19. abstract 6A161 ("Izv. Gl. astron. observ. v Pulkove", 1961, v. 22, no. 1, 98-112) 4

TEXT: The author describes controlling devices, developed in the Main Astronomical Observatory, AS USSR, for the complete automation of observations with a photographic zenith telescope. Its automation system consists of the mechanism of automatic cycle for observation of one star by the four-exposure method and the programming mechanism. The automatic cycle mechanism controls the movements of the carriage with the photoplate, the functioning of the shutter time recording, turns of the objective (rotor) with the photoplate through 180° , and the operation of the printing chronograph. Symmetric distribution of exposure instants with respect to meridian is thereby ensured. Two step view finders, set into motion by second pulses of the quartz clock, are used as

Card 1/2

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A001/A101

Automation of observations ...

controlling elements in the automatic cycle mechanism. A corresponding connection of these view finders forms a switch for 156 positions which ensures the working cycle in 156 sec. At prescribed instants and in a definite sequence, relay control circuits and servomechanism of the photographic zenith telescope are switched on by means of this switch. Exposure duration can be set at 10, 20 and 30 sec. Diagrams are presented which illustrate the functioning of the automatic cycle mechanism. Time is recorded by the optical and mechanical methods. The switching-on of this mechanism at determined time instants and selection of necessary exposure are accomplished by the programming mechanism which consists of the time counter, formed by two view finders, memory in the form of a commutation board, and star counter constructed on four view finders. The latter picks up necessary commutation out of the memory. The programming mechanism ensures automatic observation of no less than 100 stars. Diagrams of the programming mechanism are given and its operation is described. Control and checking are exerted from the main panel of the photographic zenith telescope which is located in the observatory building, 110 m from the pavillion. There are 5 references.

Yu. Belyayev

[Abstracter's note: Complete translation]

Card 2/2

NAUMOV, V.A.

Determining time and latitude with Pulkovo photographic zenith tube.
Astron. tsir. no. 232: 13 (D '62. (MIRA 16:4)

1. Glavnaya astronomicheskaya observatoriya AN SSSR.
(Astronomy, Spherical and practical)

NAUMOV, V.A.

Instrumental errors of a photographic zenith tube and their
investigation. Astron.shur. 39 no.2:335-344 Mr-Apr '62.
(MIRA 15:3)

1. Glavnaya astronomicheskaya observatoriya AN SSSR.
(Telescope, Zenith--Testing)

NAUMOV, V.A., prof.

Problems of increasing the velocity of shuttle looms and the
reduction of the breakableness of threads. Magy textil 17
no.1:1-3 Ja '65.

RAUNOV, V. A.

The repair of the jaw-forming and working mechanism of a loom Moskva, Gos. nauchnotekhn. izd-vo legkoi promyshl., 1950. 34 p. (Ministerstvo legkoi promyshlennosti SSSR. Tekhnicheskoe upravlenie. Otdel tekhnicheskoi informatsii. Obmen peredovym opytom) (51-27082)

TS1493.N3

NAUMOV, V. A.

Flight of the shuttle on the loom. Moskva, Gos. nauchno-tekhn. izd-vo Ministerstva promyshl. tova-rov shirokogo potrebleniia SSSR, 1954. 192 p.
(55-44184)

T31493.N33

NAUMOV, V.A., kandidat tekhnicheskikh nauk

Considerable increase in the speed of looms. Tekh.prom. 15
no.6:26-27 Je '55. (MIRA 8:7)
(Looms)

NAUMOV, Valerian Aleksandrovich; VARENYSHEV, Viktor Mikhaylovich;
IVANOV, P.P., red.; PANKRATOV, A.I., tekhn.red.

[High capacity looms] Vysokoproizvoditel'nye tkatskie stanki.
Ivanovo, Ivanovskoe knizhnoe izd-vo, 1959. 115 p.

(MIRA 14:1)

(Looms)

NAUMOV, V.A., Kand. tekhn. nauk; MEN'SHIKOVA, M.D., starshiy nauchnyy
sotrudnik

Fabrics made of a mixture of capron fibers with cotton. Tekst.
prom. 19 no.9:35-38 8 '59. (MIRA 12:12)

1. Rukovoditel' tskatskoy laboratorii Ivancvskogo nauchno-issledo-
vatel'skogo instituta tekstil'noy promyshlennosti (IvNITI) (for Naumov)
(Textile fabrics)

NAUMOV, V.A., kand.tekhn.nauk

Using the method of rounds of loom inspection for the study
of thread breakage in weaving. Tekst.prom. 21 no.3:9-12 M-
'61. (MIRA 14:3)

1. Rukovoditel' tkatskoy laboratorii Ivanovskogo nauchno-issledova-
tel'skogo tekstil'nogo instituta.
(Weaving)

NAUMOV, V.A.; SKACHKOV, V.A., starshiy nauchnyy sotrudnik; TYULYALIN, V.G.,
starshiy nauchnyy sotrudnik

Causes of warp breakage on looms. Tekst. prom. 24 no.9:24-28
S '64. (MIRA 17:11)

1. Rukovoditel' tkatskoy laboratorii Ivanovskogo nauchno-
issledovatel'skogo instituta (for Naumov). 2. Ivanovskiy
nauchno-issledovatel'skiy institut (for Skachkov, Tyulyalin).

NAUMOV, V. A.

USSR/ Chemistry - Structure of molecules

Card 1/1 Pub. 147 - 18/35

Authors : Akishin, P. A.; Spiridonov, V. P.; Naumov, V. A.; and Rambidi, N. G.

Title : Electronographic investigation of molecular structures. Part 3. Cadmium halides

Periodical : Zhur. fiz. khim. 30/1, 155-160, Jan 1956

Abstract : The geometrical parameters of molecules of all cadmium halides were established through electronographic investigation. The molecules investigated were found to have a linear configuration. It was observed that the space Cd - F does not correspond with the experimental law governing the linear changes in the interatomic metal-halide spaces in many halogen derivatives depending upon the atomic number of the given halide. Thirteen references: 4 USSR, 3 Germ., 5 USA and 1 Indian (1889-1955). Tables; graphs.

Institution : Moscow State University im. M. V. Lomonosov

Submitted : May 26, 1955

AKISHIN, P.A.; SPIRIDONOV, V.P.; NAUMOV, V.A.

Electron diffraction study of the structure of the ZnF_2 molecule.
Zhur.fiz.khim. 30 no.4:951-953 Apr. '56. (MLRA 9:9)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
(Zinc Fluoride)

NAUMOV, V.A.
USSR/Physical Chemistry - Molecule, Chemical Bond.

B-4

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 6900.

Author : V - P.A. Akishin, V.P. Spiridonov, G.A. Sobolev, V.A. Naumov;
VI - P.A. Akishin, V.P. Spiridonov, G.A. Sobolev.

Inst :

Title : Electronographic Investigation of Molecular Structure. V.
Magnesium Halides. VI. Calcium Halides.

Orig Pub: Zh. fiz. khimii, 1957, 31, No 2, 461-466; No 3, 648-652.

Abstract: V. The structure of MgF_2 (I), $MgCl_2$ (II) and $MgBr_2$ (III) in gaseous state was investigated by the electron diffraction method. Peaks of 1.78 and 3.52 Å referred to the distances Mg - F and F - F correspondingly were revealed on the curve of radial distribution for I; 2.18 (Mg - Cl) and 4.36 (Cl - Cl) were revealed for II, and 2.34 (Mg - Br) and 4.36 (Br - Br) were revealed for III. In all these cases the best agreement between the theoretical and visual intensity curves (with the

Card : 1/2

-5-

Moscow State Univ.

US/R/Physical Chemistry - Molecule, Chemical Bond.

B-4

Abs Jour: Referat. Zhurnal Khimiya, No 3, 1958, 6900.

adjustment for the temperature) is observed at the angle $X - Mg - X$ (where X is either F, or, Cl, or Br) = 180° . It was finally found (the first number is $Mg - X$ in A, the second is the angle $X - Mg - X$): I - 1.77 ± 0.02 , $180^\circ \pm 30^\circ$; II - 2.18 ± 0.02 , $180^\circ \pm 10^\circ$; III - 2.34 ± 0.03 , $180^\circ \pm 10^\circ$.

VI. The electronographic investigation of CaF_2 (IV), $CaCl_2$ (V), $CaBr_2$ (VI) and CaI_2 (VII) in gaseous state was carried out similarly to the above. The following data were obtained (the first figure is $Ca - X$ in A, the second figure is the angle $X - Ca - X$): IV - 2.10 ± 0.03 , 180° ; V - 2.51 ± 0.03 , $180^\circ \pm 30^\circ$; VI - 2.67 ± 0.03 , $180^\circ \pm 10^\circ$, and VII - 2.88 ± 0.03 , $180^\circ \pm 10^\circ$. See report IV in RZhKhim, 1956, 70926.

Card : 2/2

-6-

NAUMOV, V.A.
AKISHIN, P.A.; SPIRIDONOV, V.P.; SOBOLEV, G.A.; NAUMOV, V.A.

Studying the structure of molecules by means of electron diffraction. Part 7: Strontium halides [with summary in English].
Zhur.fiz.khim.31 no.8:1871-1874 Ag '57. (MIRA 10:12)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Electron diffraction examination) (Stereochemistry)
(Strontium compounds)

NAUMOV, V. A.: Master Chem Sci (diss) -- "Electronographic investigation of the structure of the molecules of the halides of gallium, yttrium, lanthanum, and neodymium". Moscow, 1958. 15 pp (Moscow State U in M. V. Lomonosov, Chem Faculty), 110 copies (KL, No 6, 1958, 1960)

SOV 156-58-2-1/48

AUTHORS: Akishin, P A , Naumov, V A Tatevskiy, V M

TITLE: Electron-Diffraction-Investigations of the Molecular Structure of Gallium-Halides (Elektronograficheskoye issledovaniye stroyeniya molekul galogenidov galliya)

PERIODICAL: Nauchnyye doklady vysshey shkoly, Khimiya i khimicheskaya tekhnologiya, 1958. Nr 2, pp 205-209 (USSR)

ABSTRACT: The task of the present paper is the determination of the configuration and of the geometrical parameters of the molecules of the gallium-fluoride, chloride, and bromide by the diffraction-method with fast electrons, with a vapor-jet of the substance to be investigated. Because no data have been found so far in this field (except Ref 1) the authors planned to apply a thoroughly worked-out experimental method as well as a deciphering method. For this reason a new type of electron-diffraction camera was employed (Ref 2) and the ampulla was filled in a drying room. The elaboration of a vapor-electron-diffraction-pattern was carried out visually and photometrically (Ref 3). The process of decoding was carried out by means of: a) construction of curves of the radial distri-

Card 1/3

SOV' 156-58-2-1/48

Electron-Diffraction-Investigations of the Molecular Structure of Gallium-Halides

bution (Ref 4) and b) the method of successive approximation (Ref 5). These investigations disclosed a new insight into the molecular structure of gallium-halides. The electron-diffraction-method proved the presence of monomer-molecules in vapor. Moreover the configuration was determined as well as the geometrical parameter of the GaF_3 -molecule. The dimerisation of molecules was proved in vaporous gallium-chlorides and gallium-bromides, and more reliable data were obtained from their structure and their geometrical parameters (see table 2). There exist good reasons to assume analogy between structure of the crystalline gallium-halides and aluminium-halides. Data on the configuration of gas molecules of Ga_2Cl_6 and Ga_2Br_6 agree with data of solid aluminium, gallium, and indium halides (Ref 9) as well as solid trimethyl-aluminium. There are 3 figures, 2 tables, and 9 references, 2 of which are Soviet.

ASSOCIATION:

Kafedra fizicheskoy khimii Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Chair of Physical Chemistry of the State University imeni M. V. Lomonosov, Moscow)

Card 2/3

SOV'156—58-2-1/48

Electron-Diffraction-Investigations of the Molecular Structure of Gallium-Halides

SUBMITTED: October 21, 1957

Card 3/3

Naumov, V. A.

AUTHORS: Akishin, P. A., Spiridonov, V. P., 76-1-6/32
Sobolev, G. A., Naumov, V. A.

TITLE: Studies of Molecular Structure by Electron Diffraction.
VIII. Barium Halides (Elektronograficheskoye issledovaniye
stroyeniya molekul. VIII. Galogenidy bariya).

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol. 32, Nr 1, pp. 56-61
(USSR)

ABSTRACT: For the first time the hitherto in literature lacking data on the configuration and the geometric parameters of the molecules of all vaporous halides of barium are obtained. That is to say of barium fluoride, barium chloride and barium iodide. The taking of electronograms was carried out by means of an apparatus with an evaporator for high temperatures according to the method used by the authors of earlier works (ref. 1 to 6). The evaluation of electronograms was carried out according to two methods: the radial distribution according to the variant of Volter-Bich and that of consecutive approximations. With the evaluation according to the second method the authors established that the distribution of the intensity of stray electrons of the barium halide vapors, observed experimentally is well represented by the theoretical

Card 1/3

Studies of Molecular Structure by Electron Diffraction. 76-1-2,32
VIII. Barium Halides

intensity curves $I(s)$ (which had been calculated on the condition of a linear configuration of the barium halide molecules). The asymmetry of the rings on the electronograms of barium halide vapors is less marked than with those of the corresponding halides of calcium and strontium (ref. 5,6). Because of the greater charge value of the barium nucleus compared with the charges of calcium- and strontium nuclei, the valence angle in the molecules of barium halides according to the method of consecutive approximation can be determined only less exact than with the molecules of halides of calcium and strontium.- In the case of all compounds investigated a linear molecular structure was stated and the values of the intermolecular distances were found. The error in the determination of these distances Ba-X is $\pm 1,5\%$. The authors stated that the interatomic distance Ba-X in chloride-, bromide- and iodide molecules changes approximatively according to the linear law in dependence on the ordinal number of the halide, while the distance Ba-F deviates strongly from this regularity.

Card 2/3

Studies of Molecular Structure by Electron Diffraction.
VIII. Barium Halides

76-1-8/32

There are 2 figures, 5 tables, and 7 references, 6 of which are Slavic.

ASSOCIATION: Moscow State University imeni M. V. Lomonosov
(Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova).

SUBMITTED: September 13, 1956

AVAILABLE: Library of Congress

Card 3/3

NAUMOV, V. A.

NAUMOV, V. A.; ROBINSON, G. I.; SPIRIDONOV, P. S.; SAKOV, A.

"Electron Diffraction by Gases at the High Temperature"
A report presented at the Symposium of the International Union Conference of
Crystallography Leningrad 21-27 May 1979

NO: B 3,135,471

28 July 1979

W AUMOV, V. A.

5(2)

SOV/156-53-1-1/54

AUTHORS: Akishin, P. A., Naumov, V. A.

TITLE: Electronographic Investigation of the Molecular Structure of Lanthanum Halides (Elektronograficheskoye issledovaniye stroeniya molekul galogenidov lantana)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 1, pp 5 - 7 (USSR)

ABSTRACT: Five to seven series of electronograms were plotted from each lanthanum halide compound with and without the use of the s^2 sector at 40, 60, and 80 kv. The evaluation was carried out according to the methods of successive approximations and radial distribution. All curves of the radial distribution (see diagram) show two peaks. The first and higher one is interpreted as $r(\text{La-X})$, the second and flat one as $r(\text{X-X})$ (r -interatomic distance, $\text{X} = \text{F}, \text{Cl}, \text{Br}, \text{J}$). A flat triangular model of the compounds LaX_3 is formed by the curves of radial distribution. The results are in good agreement with the data on yttrium halogen compounds. The interatomic distances La-X in the series of Cl, Br , and J compounds change according to

Card 1/2

Electronographic Investigation of the Molecular Structure SCV/156-59-1-1/54
of Lanthanum Halides

the atomic number of the halogen following a linear law (see diagram). The distance La-F does not follow this law, but shows a considerably reduced value. The results of the approximate computations for lanthanum fluoride, chloride, bromide, and iodide are summarized in a table. A second table shows the determined interatomic distances of the compounds mentioned. There are 2 figures, 2 tables, and 5 references, 1 of which is Soviet.

ASSOCIATION: Kafedra fizicheskoy khimii Moskovskogo gosudarstvennogo universiteta im. M. V. Lomonosova (Chair of Physical Chemistry of Moscow State University imeni M. V. Lomonosov)

SUBMITTED: April 25, 1958

Card 2/2

24(7)

SOV/156-59-2-1/48

AUTHORS:

Akishin, P. A., Naumov, V. A., Tatevskiy, V. M.

TITLE:

The Electronographical Investigation of the Structure of the Molecules of the Neodymium Halogen Compounds (Elektronograficheskoye issledovaniye stroeniya molekul galogenidov neodima)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 2, pp 229-232 (USSR)

ABSTRACT:

In a previous investigation it was found (Ref 1) that the molecules of LaX_3 (X - halogen) have a plane configuration with the lanthanum atom in the center of an equilateral triangle. Because of the similar structure of the outer electron shells a similar configuration was to be expected in the case of neodymium. The measurements carried out by means of an electronograph of the Chemical Department of the MGU (Moskovskiy gosudarstvennyy universitet - Moscow State University) confirm this. The electronograms were read according to the method of radial distribution and according to the method of successive approximation. Figure 1 shows the curves of radial distribution. The two peaks of the curve are interpreted as $r(\text{Nd} - \text{X})$ and $r(\text{X} - \text{X})$. They were in agreement with the expected plane configuration. The RMS oscillation amplitudes were computed

Card 1/2

30V/156-59-2-1/48

The Electronographical Investigation of the Structure of the Molecules of the Neodymium Halogen Compounds

and the theoretical curves of the scattering intensity were plotted (Fig 2) which are in good agreement with the experimentally found curves. Table 2 shows the RMS oscillation amplitudes for NdF_3 , NdCl_3 , NdBr_3 and NdJ_3 and the geometrical parameter. The experimentally found symmetrical configuration of LaX_3 (Ref 1), YX_3 (Ref 7) and now also NdX_3 confirm the quantum chemical assumptions (Ref 8). In the series chlorine - bromine - iodine, neodymium - halogen follow approximately a linear law, whereas the distance neodymium - fluorine is considerably reduced, as it is the case with a number of fluorine compounds. There are 2 figures, 2 tables, and 10 references, 5 of which are Soviet.

PRESENTED BY: Kafedra fizicheskoy khimii Moskovskogo gosudarstvennogo universiteta im, M. V. Lomonosova (Chair of Physical Chemistry, Moscow State University imeni M. V. Lomonosov)

SUBMITTED: October 13, 1958

Card 2/2

SOV/70-4-2-8/36

AUTHORS: Akishin, P.A., Naumov, V.A. and Tatevskiy, V.M.

TITLE: An Electronographic Investigation of the Structure of Molecules of the Halides of Gallium and Yttrium (Elektronograficheskoye issledovaniye stroyeniya molekul galogenidov galliya i ittriya)

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 2, pp 194-200 (USSR)

ABSTRACT: Investigations were made, as in the previous paper, using the sector-photometric method and the new electronograph at the MGU. The results were analysed by successive approximations and the method of radial distributions. Theoretical and experimental distribution curves are reproduced. Ga_2Cl_6 and Ga_2Br_6 were dimeric with Ga-Ga distances of 3.28 and 3.41 Å, respectively, and angles $\text{X}_3\text{-Ga}_2\text{-X}_4$ of $112^\circ \pm 3$ and $110^\circ \pm 3$ and $\text{Ga}_1\text{-X}_5\text{-Ga}_2$ of $91^\circ \pm 3$ and $93^\circ \pm 3$. All other distances are tabulated. The other compounds GaF_3 , GaI_3 , YF_3 , YCl_3 , YBr_3 and YI_3 were plane triangular molecules with Mo-X

Card1/2

SOV/70-4-2-8/36
An Electronographic Investigation of the Structure of Molecules
of the Halides of Gallium and Yttrium

distances of 1.88, 2.44, 2.04, 2.47, 2.63, 2.80 ± 0.03 Å,
respectively. These observations contradict some by
Brode (Ref 3). Ga_2F_6 molecules were present (as shown
by mass spectrometry) to an extent of <1% and Ga_2I_6
molecules were present to about 8% in GaI_3 at the m.p.
There are 5 figures, 3 tables and 13 references, 3 of
which are Soviet, 10 English.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni
M.V. Lomonosova (Moscow State University imeni
M.V. Lomonosov)

SUBMITTED: July 15, 1958

Card 2/2

AKISHIN, P.A.; NAUMOV, V.A.; TATEVSKIY, V.M.

Electron diffraction investigation of the structure of molecules
of vaporous gallium, yttrium, lanthanum, and neodymium halides.
Vest.Mosk.un.Ser.mat., mekh., astron., fiz., khim. 14 no.1:
229-236 '59. (MIRA 13:8)

1. Kafedra fizicheskoy khimii Moskovskogo universiteta.
(Halides)

AKISHIN, P.A.; NAUMOV, V.A.

Electron diffraction study of the structure of the ScF_3 molecule in vapors and evaluation of the scandium - halogen interatomic distances in ScCl_3 and ScI_3 molecules. Zhur. strukt. khim. 2 no. 1:3-6 Ja-F '61.
(MIRA 14:2)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Scandium halides)

BALANDIN, A.A.; TOLSTOPYATOVA, A.A.; NAUMOV, V.A.

Determination of bond energies of the reacting atoms of organic molecules with the MoO_2 catalyst surface using a kinetic method.
Izv.AN SSSR.Otd.khim.nauk no.7:1150-1154 JI '62. (MIRA 15:7)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Chemical bonds) (Molybdenum oxide) (Chemical reaction, Rate of)

S/192/62/003/005/003/003
D267/D308

AUTHOR: Naumov, V.A.

TITLE: X-ray diffraction investigation of scandium, yttrium, cerium, neodymium and gadolinium orthovanadates

PERIODICAL: Zhurnal strukturnoy khimii, v. 3, no. 5, 1962, 608-611

TEXT: This research was carried out to obtain more accurate values of the cell parameters of these orthovanadates, which, according to Milligan et al. (J. phys. coll. Chem., v. 53, 1949, 227; J. Phys. Chem., v. 56, 1952, 145), crystallize in the tetragonal system and have the space group $D_{4h}^{19} - 14/amd$, with four $MeVO_4$ units in the elementary cell. The specimens were obtained by sintering V_2O_5 with the metal oxides (in the case of Ce, heating to $3500^\circ C$ was used instead of sintering). No lines attributable to the reactants used could be detected. The tabulated results provide the following information: hkl , I , d (in kX), $1/d^2$ (both measured and calculated). The obtained data coincide within $\pm 0.01 - 0.03 \text{ \AA}$ with

Card 1/2

S/192/62/003/005/003/003
D267/D308

(X-ray diffraction ...

those of Milligan et al. There are 2 figures and 6 tables.

ASSOCIATION:

Gosudarstvennyy nauchno-issledovatel'skiy i proy-
ektnyy institut azotnoy promyshlennosti i produktov
organicheskogo sinteza, Lisichanskiy filial (State
Scientific Research and Planning Institute of Nitro-
gen Industry and of the Organic Synthesis Products,
Lisichansk Branch)

SUBMITTED:

February 15, 1962

Card 2/2

NAUMOV, V. A.

33234

S/089/62/012/002/005/013

B102/B138

26.2240

AUTHORS: Broder, D. L., Kondrashov, A. P., Kutuzov, A. A., Naumov,
V. A., Sergeyov, Yu. A., Turusov, A. V.

TITLE: Multigroup methods of calculating biological shielding

PERIODICAL: Atomnaya energiya, v. 12, no. 2, 1962, 129 - 139

TEXT: The spatial energy distribution for biological shields is calculated for a source at a distance of 40 cm. Seven- and ten-group methods are used and the calculations are made in diffusion-age and diffusion approximations, respectively. As the lower limits of the groups the following energies were chosen for the seven-group method:

$1.5 \cdot 10^6$, $9 \cdot 10^6$, $4.5 \cdot 10^5$, $3 \cdot 10^3$, 3.3, E_{lim} and 0 ev, and for the ten-group method: $4 \cdot 10^6$, $2.5 \cdot 10^6$, $1.5 \cdot 10^6$, $7 \cdot 10^5$, $3 \cdot 10^5$, $4 \cdot 10^4$, $1 \cdot 10^3$, 6.7, E_{lim}

and 0 ev. Spectrum and group constants are calculated for both groups and the results are compared graphically with experimental ones. The experiments were made with the critical assembly of a water moderated

Card 1/3

33234

S/089/62/012/002/005/013

B102/B138

Multigroup methods of calculating...

reactor with a water side reflector. The shield investigated formed the bottom reflector. Three types of shields were investigated, consisting of several layers of various kinds of steel, lead, boron carbide and polyethylene. The neutron flux in the assembly was measured with a copper foil, the thermal-neutron flux in the core with a copper indicator

and an U^{235} fission chamber, and, in the experimental assemblies, with a copper indicator in a Cd container. Comparison between theoretical and experimental results permits the following conclusions: 1) Both the multigroup methods, and the group-constants chosen, are suitable for calculating the spatial distribution of neutron energy in shields containing Fe, Pb and H. 2) For shielding systems containing B the agreement with experiment is within 20% error limits. 3) The seven-group method can also be used to determine the spatial distribution of fast neutrons which is characteristic of delayed-neutron flux distribution. For a source emitting 4-Mev neutrons and with large shield thicknesses, the ten-group results differ from the experimental ones by not more than 30%. N. A. Gushchina, L. V. Marchenko, Z. P. Sokolova, Z. S. Blistanova and A. M. Astakhova took part in the calculations, N. A. Alesnin and R

Card 2/3

33234

S/089/62/012/002/005/013

B102/B138

Multigroup methods of calculating...

G. Bulycheva in the experiments. The reactor team members I. G. Morozov, Ye. I. Inyutin, V. K. Labuzov and N. G. Uvarov are thanked for their work. There are 4 figures, 1 table, and 12 references: 7 Soviet and 5 non-Soviet. The reference to the English-language publication reads as follows: D Hughes, L. Harvey. Neutron cross section, 1958.

SUBMITTED: April 17, 1961

Card 3/3

8/020/62/145/005/015/020
B106/B144

15 9300
AUTHORS: Teytel'baum, B. Ya., Cubanov, E. F., and Naumov, V. A.

TITLE: Crystallization of natural rubber

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 145, no. 5, 1962, 1077-1080

TEXT: The crystallization in natural rubber was studied by thermomechanical and X-ray diffraction analyses. In the range from -80 to 60°C and under alternating loads of 0.64 and 3.2 kg/cm, a sharp increase of deformability occurs at 0°C, due to fusion of the crystallites. From -35 to 0°C, the deformability is smaller owing to an additional crystallization and solidification of rubber near optimum crystallization temperature (-25°C). When rubber is cooled from room temperature to below vitrification temperature within 1 hr, practically no crystallites are formed except at the optimum crystallization temperature, since crystallization takes longer at other temperatures; it can be completely prevented by quickly freezing the rubber with liquid nitrogen. The melting point of the crystallites depends on their temperature of formation. In "tanned" rubber melting at ~45°C, the deformability in the highly elastic state is much lower than in rubbers
Card 1/3

S/020/62/145/005/015/020
B106/B144

Crystallization of natural rubber

crystallizing at low temperatures, but rises suddenly at 45 - 48°C. Heating the "tanned" rubber to >50°C destroys the crystallinity. Such samples do not show any jump in the deformability at 0° or 45°C, but their deformability on transition to the highly elastic state (-60°C) is much higher than in the initial rubber. When a rubber heated previously to 55°C is kept at -25°C for 1.5 hrs, crystallites are formed which melt at 0°C. When "tanned" rubber is being cooled to low temperatures, crystallization occurs without the temperature needing to be kept constant for long. The crystalline phase, formed at room temperature, therefore initiates crystallization at low temperatures. X-ray analyses showed that the crystalline phases formed at different temperatures were independent of their melting points. This is explained by the fact that at -25°C the crystallites are formed so quickly that no equilibrium is attained. The low melting point may be due to strong internal stresses and/or to the small size of quickly formed crystallites. The results of the thermomechanical and the X-ray analyses are complementary and this combination may be useful for studies of other polymers also. There are 4 figures. The most important English-language references are: C. W. Bunn, Proc. Roy. Soc., A, 180, 40 (1942); D. E. Fischer, Proc. Phys. Soc., 60, 99 (1948).

Card 2/3

Crystallization of natural rubber

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Card 3/3

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